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ABSTRACT

This booklet examines principles for effective tutoring. An introduction defines tutoring. Ten sections present research findings and practical applications. Section 1, "Real-Life Goals," includes making consistent, regular time; targeting real- life goals; and exploring understanding. Section 2, "Question and Prompt," discusses avoiding lectures, reviewing, concentrating, questioning, thinking, and prompting. Section 3, "Check and Correct Answers," includes observing tutee performance, error checking, promoting self-correction, intervening, and ensuring correct correction. Section 4, "Discuss and Praise," emphasizes discussing, praising, knowing when to praise, praising effectively, summarizing, and reviewing. Section 5, "Reading: Support and Review," discusses selecting materials, reading together, correcting errors, pausing, reading alone, continuing, praising, and reviewing. Section 6, "Writing: Map and Edit," includes generating ideas, mapping ideas, drafting, reading, editing, best copy, and evaluating. Section 7, "Mathematics: Make it Real and Summarize," highlights listening, reading, questioning, thinking aloud, making it real, checking, praising, encouraging, summarizing, and generalizing. Section 8, "Recruit and Match Partners," includes parental agreement, stating clear goals, considering personalities, and handling absence. Section 9, "Provide Training and Materials," includes specifying tutoring method, training in tutoring skills, and contracting. Section 10, "Monitor and Give Feedback," includes monitoring goals, self-help guide, self-referral, self-recording, discussion, and observation. (Contains 32 references.) (SM)

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Tutoring

By Keith Topping

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Series preface

This booklet is about tutoring. Tutoring can be defined as people who are not professional teachers helping and supporting the learning of others in an interactive, purposeful and systematic way. Tutors could include parents or other adult carers, brothers and sisters, other students from the peer group, and various kinds of volunteers.

Research shows tutoring can be highly effective. This is good news, since in some places in some countries there will never be enough professional teachers. In fact, knowledge is growing so fast that even in economically advanced countries, learners cannot rely only on professional teachers.

However, every attempt at tutoring is not automatically effective, everywhere. To be effective, tutoring needs to be thoughtful, well structured and carefully monitored. Tutors must be clear about how they can help, and how not.

Principles for effective tutoring are given in this booklet. Much of the booklet is written for tutors themselves. This is especially true of the 'Practical applications' parts of Chapters 1 to 7, discussing the first seven principles. Chapters 8 to 10 are aimed more at organizers of tutoring.

This booklet has been prepared for inclusion in the Educational Practices Series developed by the International Academy of Education and distributed by the International Bureau of Education and the Academy. As part of its mission, the Academy provides timely syntheses of research on educational topics of international importance. This booklet is the fifth in the series on educational practices that generally improve learning.

The author is Keith Topping, Director of the Centre for Paired Learning in the Department of Psychology at the University of Dundee in Scotland. The centre does research and development work in 'intelligent systems for parent, peer and computer-assisted learning'. It designs and evaluates the effectiveness of methods of tutoring in many content and skill areas (for example, reading, writing, thinking, spelling, mathematics, science) for learners of all ages in many different contexts (for example, elementary school, high school, college or university, community lifelong learning, distance learning, the workplace). Topping, a specialist in educational psychology, has authored fifteen books and over 175 other publications, including many multimedia in-service training and distance-

learning packs. He presents, trains, consults and engages in collaborative action and research around the world. (See www.dundee.ac.uk/psychology/kjtopping for links to free tutoring resources.)

The officers of the International Academy of Education are aware that this booklet is based on research carried out primarily in economically advanced countries. The booklet, however, focuses on aspects of learning through tutoring that are universal. The practices presented here are likely to be generally applicable throughout the world. Indeed, they might be especially useful in countries that are currently less developed economically. Even so, the principles should be assessed with reference to local conditions, and adapted accordingly. In any educational setting or cultural context, suggestions or guidelines for practice require sensitive and sensible application, and continuing evaluation.

HERBERT J. WALBERG
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Introduction

Tutoring can be defined as people who are not professional teachers helping and supporting the learning of others in an interactive, purposeful and systematic way. It is most usually done on a one-to-one basis, in a pair.

Tutors can be parents or other adult carers, brothers and sisters, other members of the family, other learners from the peer group, and various kinds of volunteers. Children as young as 5-years-old have learned to tutor effectively. Everyone can be a tutor—everybody can help somebody with something. In helping others to learn, tutors often learn themselves.

Tutoring is a very old practice. It was common in Ancient Greece and Rome, and is recorded in ancient texts even before then. Over the centuries it has gone up and down in popularity, but it has never gone away.

Tutors do not need to be 'experts' in the content or skill they are tutoring. But it is usually best if they know a bit more than their tutees. (The word 'tutee' will be used in this booklet for the learner who is tutored.) However, if tutors are much more advanced than the tutees, they are likely to become bored with the content the tutee has to learn, and will not gain much themselves.

Tutoring does not necessarily need any special materials. Tutors should not try to imitate what they think a professional teacher might do, because they do not have enough background knowledge for that.

Tutors should not just support, prompt or 'scaffold' the tutee towards the 'right' answer. They should also challenge and extend the tutee's fixed ideas. Maybe there is more than one 'right' answer.

Tutoring might be effective in different ways for different pairs. Compared to professional teaching, it can give:

- more practice;
- more activity and variety;
- more individualized help;
- more questioning;
- simpler vocabulary;
- more modelling and demonstration;

- more local relevant examples;
- higher disclosure of misunderstanding;
- more prompting and self-correction;
- more immediate feedback and praise;
- more opportunities for generalization;
- more insight into learning (metacognition); and
- more self-regulation and ownership of the learning process.

Both tutees and tutors can also: learn to give and receive praise, develop social skills and wider contacts, develop communication skills (listening, explaining, questioning, summarizing), and develop greater self-esteem.

Simplistic forms of tutoring, focusing on drill and practice, do not exploit the full potential of tutoring. However, tutoring has its dangers.

While a tutor can offer a greater **quantity** of individual support than a professional teacher can, the **quality** of that support is likely to be significantly poorer than that of a professional teacher. The detection of errors and misconceptions by tutors might be much less reliable than that by a teacher. Tutors might tell or show their tutees something which is actually incorrect, i.e. reinforce mistakes. Tutors might become impatient and just tell their tutee the right answer, or do the task for them, in which case the tutee will learn very little.

Tutoring can be done to help with work from school or college, or with any kind of learning work from anywhere. However, the tutor might not be sure exactly how the school wants the work to be done—especially if it has been a long time since the tutor was at school. Remember tutors are not expected to know everything. They should always be ready to say 'I am not sure' or 'this is my way, but it is not the only way'.

Despite these potential difficulties, a great deal of research evidence shows that tutoring can be very effective—and a very cost-effective way of raising achievement (Bloom, 1984; Cohen, Kulik & Kulik, 1982; Devin-Sheehan, Feldman & Allen, 1976; Levine, Glass & Meister, 1987; Rohrbeck et al., 1999; Sharpley & Sharpley, 1981; Topping & Ehly, 1998; Walberg & Haertel, 1997).

Nevertheless, given the potential weaknesses as well as strengths of tutoring outlined here, it is important that tutoring is well structured and of good quality. Effectiveness reported

in the research literature will not ensure effectiveness right there where you are. The quality of implementation is crucial. Tutors should be clear about how they can help, and how not.

Ten research-based 'Principles' for effective tutoring are given and discussed in this booklet. The principles are of three types:

- General principles of how to tutor (Chapters 1–4) — for tutors;
- Principles of how to tutor reading, writing and mathematics (Chapters 5–7) — for tutors; and
- Principles of how to organize tutoring (Chapters 8–10) — for teachers and organizers of tutoring.

References and suggestions for further reading are found at the end of the booklet.

1. Real-life goals

Agree a consistent time, target tutee's real-life goals, and balance support and challenge.

Research findings

Time-on-task is a major factor in effective learning. Learning in frequent short sessions is more effective than in occasional long sessions.

The tutees' motivation will be highest for their own real-life goals. However, these might be short-term and focused only on task completion, and need broadening.

Tutoring should start at the tutee's current point of understanding. Tutors must establish where this is, and uncover relevant misconceptions. Tutoring must then proceed in small steps from this point.

Learning strategies is more important than memorizing subject content. Schoolteachers do not have enough time to talk with individual learners about their strategies, or explore deep understanding. This is where tutoring can be especially helpful (see Booklets 1 and 3 in this series; Gage & Berliner, 1998; Topping & Ehly, 1998).

Practical applications

- **Consistent and regular time.** Tutor and tutee must agree how much time they can give to working together. How often will you meet each week? How long is each session? Over how many weeks? Where? Do not start anything you cannot keep up or finish. Regular meetings are needed to build up a trusting and comfortable tutoring relationship.
- **Target tutee's real-life goals**. Tutees often have strong ideas on what they need help with. However, these ideas can be very short-term. Tutees might think more of getting their written homework done 'correctly' (so their teacher is not angry with them), than of really understanding the subject. Tutors have to start with the tutee's immediate concerns. But tutors should talk with tutees about their goals.

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encouraging them to consider wider and deeper understanding. Of course, this does not mean that tutors make tutees learn what the tutor is interested or expert in, or to think just like the tutor.

- **Explore understanding.** Tutors need to find out what tutees already know—and what they think they know that is actually incorrect. Talking to explore deep understanding is the way to do this. Explore varied examples to make sure tutees can really use what they know in different contexts.
- **Small steps.** Tutees often need to learn in very small steps. Do not expect them to make big leaps. Tutors often forget how long it took them to really understand something themselves.
- **Balance support and challenge.** Tutoring is intended to be supportive—to help the tutee in their struggle to understand. But tutors should not just give tutees the right answer, or just tell or show them how to do something. This might feel helpful, but it will only result in mechanical learning without real understanding—remembering **what**. Understanding the process of **how** to find the right answer is the most important thing. So tutoring should be more than repeated drill and practice. Sometimes tutors will find that tutees have fixed ideas that are too narrow or just wrong. Then the tutor must challenge the tutee (in a gentle and helpful way), to help them loosen and then reorganize and improve the quality of their thinking.

2. Question and prompt

Question, pause for thinking time, and then prompt.

Research findings

Talking at people for a long time is not an effective way of helping them to learn. The time you have allocated to tutoring must be spent tutoring if it is to have an effect. A variety of tasks and ways of responding to tasks helps prevent tutees and tutors from losing interest. Different kinds of questioning have very different effects on learners. Tutees must be allowed time to understand questions or tasks, relate them to their previous experience, and devise a relevant strategy. Prompting should be graduated, minimal for the required effect and various in type (see Booklet 1 in this series; Good & Brophy, 1995; Topping & Ehly, 1998).

Practical applications

- **Avoid lectures.** Do not give tutees long, complicated explanations. Keep everything short, to the point and in simple words. Give positive instructions for what to do. Do not emphasize what *NOT* to do. If necessary, explain again briefly, but in different words.
- **Review.** Often it is helpful to briefly review what you learned in your previous tutoring session.
- **Concentrate.** Stay focused on the task in hand. Do not drift off into irrelevant conversation. Tutoring time is precious. Use it well. But have some fun while learning.
- **Variety.** Mix up: easy and hard tasks; short and long; highly structured and open-ended; talking, reading and writing.
- **Question**. Do not just ask for a fact or one-word answer. Ask questions that are open-ended and encourage the tutee to talk. But do not make them too complicated. Ask questions that will make the tutees think and reveal their understanding (or misunderstanding). Ask questions that

make the tutee apply, analyse, predict, classify, synthesize, justify or evaluate what they are learning. Some of these questions will have more than one 'right' answer. Do not accept guesses.

- **Thinking time.** Do not expect the tutee to respond to a question immediately. They will need some thinking time. Tutors can give them that, while schoolteachers often cannot.
- **Prompt.** Do not just tell the tutee the answer. Give them a small clue about how to work out the right answer. This might be a drawing or a gesture (for example), as well as more spoken words. Give just enough support to enable the tutee to be successful with some effort — no more.

3. Check and correct errors

Observe performance; check for errors; ensure all errors are corrected.

Research findings

Errors are a positive learning opportunity if recognized as errors. But if not recognized, errors compound faulty learning. Tutors have more time than schoolteachers to observe carefully for errors. But they might not be so good at actually recognizing them.

Tutors also have more time than teachers to intervene in a way that encourages self-correction. Self-correction is widely recognized as an important step towards developing metacognition (understanding **how** you learn) and self-managed learning.

Tutors are much less likely than teachers to be 'experts' in the subject. Accordingly, tutors benefit from access to some 'master' version of correctness or a perfect model. Otherwise they might reinforce errors (see Booklet 1 in this series; Topping & Ehly, 1998).

Practical applications

- **Observe tutee performance closely.** If errors are not seen and corrected, much faulty learning will take place. Some errors might be just carelessness. But many will show a failure to understand.
- **Check for errors.** When you see an error, try to intervene positively. Avoid just saying 'no!'. First, suggest to your tutee that you think they might have made an error. Encourage them to find where. If they cannot find where, give them a clue to help them locate the error.
- **Promote self-correction.** When they have found it, talk about the nature of the error. In what way is it wrong? Why? How can it be put right? Through this discussion, you give the tutee the chance to put the error right themselves (self-correct). This is much better for their learning and for their confidence.

- **Correction procedure.** Of course, if they try to self-correct but still do not get it right, you will need to intervene more. If all else fails, you might need to: demonstrate or model the correct response; lead or prompt the tutee to imitate this; check that the tutee can produce the correct response without help.
- **Ensure correct correction.** Tutors do not know everything. So there is a risk they will not notice all the errors the tutee makes. Even worse, they might insist some answers are wrong, when actually they are correct. Or they might see the tutee has got something wrong, but get it wrong themselves in trying to correct it. In those kinds of tutoring where there are 'right answers' (for example, mathematics problems), it is helpful if the tutor has some master source of reference (like the correct answers on a separate sheet or in the back of the book). This might be especially necessary if tutor and tutee are not very different in ability in the subject.

4. Discuss and praise

Discuss, praise and summarize/review

Research findings

Discussion leads tutees to actively process information and develops deeper understanding, rather than just learning facts by rote.

Praise is a powerful form of feedback, especially if it comes from someone with whom the tutee has a good relationship. Research has clarified ways to make praise especially effective.

A summarizing discussion should come at the end of the tutoring session. Reviewing the most important things that have been learned will help the tutee remember. This review discussion also leads naturally into planning what you might do in the next session (see Booklet 1 in this series; Brophy, 1981; Good & Brophy, 1995; Topping & Ehly, 1998).

Practical applications

- **Discuss.** The questioning mentioned in Chapter 2 and the promotion of self-correction mentioned in Chapter 3 should lead into elaborated discussions. These will help to establish deeper and wider understanding in the tutee—and perhaps also in the tutor!
- **Praise.** Most tutors do not praise their tutees as much as they think they do. Most tutors also criticize their tutees more than they think they do. Try to observe your own tutoring behaviour carefully. Tutoring is a private situation that should be within a context of trust. Embarrassment about giving and receiving praise publicly should not be a problem. So give more praise!
- **When to praise.** Praise for success with particularly hard problems or tasks. Praise for self-correction. Praise for increasing time-span without error. Praise for effort as well as success when the tutee is struggling. Praise 'better efforts' even if still not quite right. Praise increasing tutee independence. At the end of the session, give praise for the whole session. Write some praise on any record of the session.

- **Effective praise.** Praise specifying the reason for it—say exactly what the tutee has done well. Vary the praise—use as many different praise words as you can think of. See if your tutee can think of some more! Praise as if you mean it—sound and look pleased! Smile, at least.
- **Summarize/review.** At strategic points during the tutoring session, and certainly at the end of it, ask the tutee to summarize or review the key or main points that have been learned. You might be surprised at what they think are the main points. You might need to remind them of one or two important things, which they already seem to have forgotten. Have a final discussion and agree about the main points. Do not try to cram in too many 'main' points. This is all good preparation for the review or recapitulation that should start your next session.

The next three chapters (5 to 7) give more specific principles and advice about how to tutor in reading, writing and mathematics.

5. Reading: support and review

Support the tutee through challenging text and discuss and review to ensure understanding.

Research findings

There is no doubt that tutoring in reading can be effective (Cohen, Kulik & Kulik, 1982; Fuchs & Fuchs, 1998; Wasik & Slavin, 1993). However, structured methods tend to be most effective.

The advice given here is based on the model of Duolog Reading, a specific structured form of paired reading. This is one of the most extensively researched of educational interventions. There are several major reviews of the many studies in the research literature (Topping, 1995, 2001; Topping & Lindsay, 1992; Topping & Whiteley, 1990). Review of multiple unselected project evaluations in one large school district will also be found here. This gives a more realistic indication of real-world effectiveness, which is still impressive. Most of these studies are outcome studies, measuring improved reading skills in a variety of ways. A substantial number involved control or comparison groups. There is also evidence of enduring gains at follow-up (Topping, 1992). Studies show that the method tends to result in: fewer refusals (greater confidence); greater fluency; greater use of the context; greater likelihood of self-correction; fewer errors (greater accuracy); and better phonic skills.

In a recent review of the effectiveness of twenty interventions in reading (Brooks et al., 1998), Duolog reading ranked as one of the most effective. One or two other methods produced more spectacular results, but only with very small numbers of children. By contrast, Duolog reading has been demonstrated to be effective with thousands of children in hundreds of schools in many countries. Tutors and tutees can be trained in the method in a short space of time. It can be used with any reading material available, and so is very flexible and cost-effective.

Practical applications

- **Select material.** Have the tutee chose any reading material of high interest to them. Difficulty should be above the tutee's independent readability level, but not above the tutor's.
- **Read together.** Support the tutee by both reading all the words aloud together. Adapt your reading speed to exactly match that of the tutee. The tutee must read every word.
- **Correct errors.** When the tutee reads a word wrong, just tell the tutee the correct way to say the word. (Do not give clues, or the flow of reading will be interrupted.) The tutee must repeat it correctly. Then you continue. Always correct all errors this way, and no other way.
- **Pause.** However, do not jump in and put the word right straight away. Pause and give the tutee four seconds. If they put it right by themselves (self-correct) in this time, there is no need to interfere. (However, with a reader who rushes, you might need to pause for less time, and finger point back to the error word).
- **Agree on a signal for reading alone.** Agree on a way for the tutee to signal to stop 'reading together', for when the tutee wants to read an easier section without support. This signal could be a knock, a sign or a hand squeeze. The tutor must stop 'reading together' immediately at the signal.
- **Return to reading together.** Sooner or later while 'reading alone' the tutee will make an error, which they cannot self-correct within four seconds. Correct the error (as above) **and** join back in 'reading together'.
- **Continue.** Go on like this, switching from 'reading together' to 'reading alone', to give the tutee just as much help as they need at any moment, but no more. 'Reading together' will still be needed as the tutee moves on to harder and harder books.
- **Praise.** Praise your tutee for: good reading of hard words; signalling for 'reading alone'; reading alone correctly for longer; getting all the words in a sentence right; and self-correcting. Try to use a variety of different praise words, and **look** pleased.
- **Review.** Talk about the book. Why it is interesting? Talk about the meaning of difficult words. What were the main ideas in the book? In what order?

6. Writing: map and edit

Help generate and map ideas; help scribe and edit rough drafts.

Research findings

Peer assessment of writing is increasingly common in schools (O'Donnell & Topping, 1998). There are many descriptive reports of various kinds of 'collaborative writing', but few rigorous outcome studies involving school-age tutees. In Daiute's (1989) study of 9–12-year-old writing partners, it was clear they needed to be both planful (organized and controlled) and playful (exploring ideas and words). Daiute (1990) found boys successfully balanced play and control strategies, while girls tended to over-rely on control. Daiute & Dalton (1993) compared individual and collaborative writing in low-achieving 7–9-year-old children. They found both same-ability and cross-ability collaborative pairing had benefits.

The advice given here is based upon the 'paired writing' model (Topping, 1995, 2001). This includes in a systematic way many elements widely accepted as good practice. Three major controlled studies of this method have been reported. One project involved 11-year-old tutors working with 5-year-old emergent writers (Nixon & Topping, in press). The tutees improved significantly more than comparison children did. Another project involved same age tutoring with 8-year-olds (comparing fixed-role cross-ability and reciprocal-role same-ability tutoring) (Sutherland & Topping, 1999). Both tutors and tutees in both groups showed significant subsequent improvement in individual writing. However, the gains for tutors in the cross-ability group did not appear immediately. The third project involved same-age cross-ability tutoring with 10-year-olds (Yarrow & Topping, in press). Again, 'paired writers' showed significantly greater gains than children who wrote alone, whether tutors or tutees.

Practical applications

- **Generate ideas.** Talk about the purpose and audience for the writing. Talk about the tutee's ideas. Stimulate ideas by

asking questions (such as Who? Do? What? To? With? Where? When? How? Why?—in any relevant order). Make brief one-word notes on the tutee's ideas.

- **Map ideas.** Review the ideas. Have the tutee number the ideas in the best order. Or divide them into sections, and put the sections in order. Draw lines linking related ideas, making an 'ideas map'. Use colours or underlining if it helps. This map forms a plan for the next step.
- **Draft.** From the map, begin to write a rough version of the text. The tutee should say what they want to communicate, while the tutor does as much of the actual writing down as the tutee needs. The tutor may: do all the writing; only write in the hard words; show the tutee how to write the hard words for the tutee to copy in; or only tell the tutee how to spell hard words. Do not worry about spelling, punctuation or grammar at this stage.
- **Read.** The tutor reads the draft aloud, with as much expression and attention to punctuation as possible. Then the tutee does the same.
- **Edit.** Look at the draft together. Have the tutee think about where improvements are necessary. The problem words, phrases or sentences can be marked with a coloured pen, pencil or highlighter. The most important area of need for improvement is where *meaning* is unclear. The second most important is to do with the organization of ideas, or the *order* in which meanings are presented. Only then consider whether *spellings* are correct, and last of all whether *punctuation* is helpful and correct. The tutor can then make any additional suggestions about changes. Remember to use the dictionary, if in any doubt.
- **Best copy.** It does not really matter who writes out the final best copy, because all the hard work is in the thinking before that stage. The tutor might do it, or the tutee, or both might do some, or someone else might word-process it from the edited and corrected draft. The best copy belongs to both tutor and tutee—both could sign it as authors.
- **Evaluate.** Perhaps later, the tutee and tutor inspect and evaluate their 'best copy'. 'Best copies' can be exchanged with other pairs for evaluation. Try to give more positive comments than critical comments. This should help the tutee think about how to improve next time.

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7. Mathematics: make it real and summarize

Question, make it real, check, summarize and generalize in mathematics.

Research findings

The research evidence suggests that tutoring can be particularly effective in mathematics (e.g. Cohen, Kulik & Kulik, 1982). Britz (1989) reviewed studies of tutoring in mathematics published from 1980–89. Findings indicated the effectiveness of peer tutoring in promoting significant gains in mathematics performance for both the tutor and the tutee, including with low achievers, mildly handicapped or socially disadvantaged children. Heller & Fantuzzo (1993) have demonstrated the effectiveness of combining peer tutoring with parent tutoring in mathematics with 10–11-year-old students.

Tutoring in mathematics should not be just supervised mechanical drill. Tutors must not just do the problem for the tutee, or give them the answer. It is important that the tutee has time to talk and feels able to disclose their misunderstandings.

Mathematics is much more than just arithmetic. Its scope is so wide that some tutoring projects have used mathematical games (or other structured materials) to support the tutoring (e.g. Topping & Bamford, 1998*a*, 1998*b*). Designing a single tutoring procedure that could apply to all kinds of mathematics and requires no special materials is difficult. However, this has recently been done, based on principles of instructional design and the study of one-to-one interactions between professional teachers and students in mathematics. The resulting method is known as Duolog math (Topping, 2000*a*), on which the advice given here is based.

Practical applications

- **Listen.** Give your tutee time to struggle to explain what their difficulty is. Do not just jump in to fix what you assume their difficulty is.

- **Read.** Your tutee might be having trouble reading a word problem. If so, read it for them and check their understanding.
- **Question.** Ask helpful and intelligent questions which give clues, to stimulate and guide student thinking, and challenge their misconceptions. Examples: 'what kind of problem is this?'; 'what are we trying to find out here?'; 'can you state the problem in different words or a different way?'; 'what **important** information do we already have?'; 'can we break the problem into parts or steps?'; 'how did you arrive at that?'; 'does that make sense?'; 'where was the last place you knew you were right?'; 'where do you think you might have gone wrong?'; 'what kind of mistake do you think you might have made?'. Do not say 'that's wrong!'—ask another question to give a clue. Ask 'why?'. Try to avoid: closed questions which require only a 'yes' or 'no' answer; questions which just rely on memory; questions which contain the answer; the question 'did you understand that?'. Try to avoid answering your own questions. Avoid indicating the 'difficulty' of any step.
- **Pause for think-aloud.** Give your tutee some thinking time, before expecting an answer. Encourage them to tell you what they are thinking all the time. Then you will find out where and how they are going wrong. Remember tutors need time to think, also! If you are not sure, say so. You are not supposed to know everything.
- **Make it real.** Try to make the problem seem real and related to the life of your tutee. Ask the tutee to try to imagine what the problem would **look** like in real life. Encourage them to use fingers, counters, cubes, sticks or any other objects to show the reality of the problem. Or have them draw dots, a picture, a list, table, diagram, graph or map. Useful charts include a number line, a multiplication matrix and a place-value chart. With your tutee's permission, mark their written working out with lines, arrows, colours or numbering to help them. Have the tutee think of what they have learned before or problems they have solved before, relevant to the current problem. Work through a similar but simpler problem. How can this kind of problem be related to people, places, events and experiences in the home/community life of the tutee? Or those of someone they know or have seen on television? Make up a similar problem using the student's own name. Try to use everyday language.

- **Check.** Check that your tutee eventually gets the right answer. But remember there is probably more than one 'right' **way** to solve the problem. **Only if all else fails** show your tutee how you would do it (while **you** think aloud).
- **Praise and encourage.** Give your tutee praise and encouragement very often, even for a very small success with a single step in solving a problem. Keep their confidence high.
- **Summarize and generalize.** Have your tutee summarize the key strategies and steps in solving the problem. Point out any errors or gaps, then summarize the key strategies yourself. Talk about how these might be applied to another similar problem (generalized).

The next three chapters (8 to 10) give principles and advice on how to organize tutoring.

8. Recruit and match partners

Recruit and match learning partners with care.

Research findings

The effects of different ways of recruiting tutors have not been systematically studied. In the United States of America, it is quite usual for tutors who are themselves students to receive course credit or payment for tutoring. In Europe, this is not at all usual, and there is much more emphasis on voluntary tutoring. Voluntary tutors might be assumed to be better motivated. But will their motivation last? This connects with the question of whether tutoring is seen as a substitute for professional teaching, or as a valuable, different and complementary experience in its own right.

The difference in ability between the tutor and the tutee is another issue. Some research suggests that tutoring by those who are very able in the subject is more beneficial to the tutee. However, tutoring at a level so far beneath their own might quickly become boring for the tutors, who are unlikely to obtain any stimulation or other intrinsic benefit. Tutoring in pairs with a much smaller difference in ability is likely to be much more challenging and engaging for the tutors. In this situation, the tutees might not gain so much, but the tutors are likely to gain in addition. In recent years, there has been increased interest in the benefits of tutoring for the tutors. Also, near-ability tutors can be more credible models for tutees—they have themselves recently struggled and succeeded, showing that success is possible with effort (Cohen, Kulik & Kulik, 1982; Sharpley & Sharpley, 1981; Topping & Ehly, 1998).

The research suggests that age difference is much less important that ability difference, although the two might happen to go together. Research on gender differences has not yielded consistent findings, although there is some evidence that males benefit more than females from tutoring in some contexts, especially when serving as tutors to male tutees

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(Topping, 2000*b*). Of course, in some countries the idea of younger students tutoring older students, or females tutoring males (for example), might not be culturally acceptable.

Practical applications

- **Voluntary or rewarded tutors?** Decide early on whether tutors will be rewarded or not, as it will effect recruitment—for good and/or bad.
- **Parental agreement.** Consider whether parental agreement needs to be given, before tutoring commences.
- **State clear goals.** Tutor and tutee should agree on what they are trying to achieve. Do not be too ambitious.
- **Say when you do not know.** Nobody knows everything. Tutors (and organizers of tutoring) should always say when they are unsure. Teaching something that is wrong harms both tutor and tutee.
- **Decide ability differential.** Are tutors and tutees to be quite close in ability in the subject of tutoring, or far apart? What are the advantages and disadvantages of each?
- **Consider personalities.** Also think of possible personality and relationship clashes when matching pairs. For example, do not match a very quiet and timid tutee with a very dominant and strict tutor. Existing 'friends' might work well together—or they might chatter about anything but work. Do not necessarily accept tutee preference for a tutor.
- **Fixed or reciprocal roles.** Even in a pair of very different ability, sometimes it is effective for the tutee to try to teach the tutor something. This is a good way of checking if the tutee really understands it.
- **Schedule contact time.** How often will the pair meet each week? Where? How long will each session be? Over how many weeks? Both tutor and tutee must be clear about their time commitment.
- **Handling absence.** Consider how to deal with the absence of tutor or tutee. You might wish to name a 'stand-by' tutor as back-up.

9. Provide training and materials

Specify tutoring method, provide training and access to materials.

Research findings

Reviews of research on tutoring consistently find that more structured methods in which tutors receive training tend to yield better outcomes (Cohen, Kulik & Kulik, 1982; Sharpley & Sharpley, 1981; Topping & Ehly, 1998).

A clear procedure for tutoring needs to be specified. This can be generic (to be applied to any materials of the pair's choice). Or it might be based on, and structured by, some special materials the pair are given. If the method is to be applied to a wide range of materials, it is important to specify even more exactly what the tutor is to do (Topping, 2000*b*). For a first attempt, use of a 'packaged' method that has already been proved effective is recommended (see Chapters 5 to 7).

Even if tutoring is not based on given structured materials, pairs will still need access to some materials from which to choose (e.g. a collection of reading books). In developing countries, access to materials can be a big problem in some places.

Practical applications

- **Specify tutoring method.** Be very clear about what good tutoring would look like. Perhaps use a 'packaged' technique? Consider general or specific tutoring skills, or some of both? Structured by specific materials, or not?
- **Training.** Train tutors and tutees together if possible. Tell them what to do. Then demonstrate what they have to do. Then give them a written and/or graphic reminder of what they have to do (to keep). Then have them immediately practice the tutoring method. Materials will be needed for practice. Observe and check whether they are doing it well. Give extra praise and coaching as needed.

- **Train in general tutoring skills.** For example, how to establish a comfortable relationship; how to present tasks; how to give clear explanations; how to ask questions; how to demonstrate skills; how to prompt or lead tutees into imitating skills; how to check on performance; how to give feedback and praise; how to identify consistent patterns of error; how to keep progress records.
- **Train in specific tutoring skills.** As specifically relevant to your tutoring method and/or materials.
- **Contracting.** You might wish to have tutors and tutees sign some form of contract. This sets out the details of their agreement to work together.
- **Access to materials.** These might be special materials that are specific to a tutoring programme. Or they might be regular classroom materials. Or materials publicly available (e.g. from a public library or downloaded from the Internet). If tutoring is based on 'homework' set by a teacher, the school is likely to provide the materials. Sometimes the materials are specially made. They can be produced by pairs themselves, or by volunteers or administrative staff under guidance. Pairs need to be able to obtain new materials before every tutoring session. Access must be frequent, quick and easy. Does the pair know what difficulty level to choose? What sequence to follow? How do they know?

10. Monitor and give feedback

Monitor, give feedback and intervene to maximize effectiveness.

Research findings

Reviews of research on tutoring consistently report effectiveness (Cohen, Kulik & Kulik, 1982; Sharpley & Sharpley, 1981; Topping & Ehly, 1998). However, even in the published literature (with its bias towards positive and statistically significant findings), a minority of tutoring projects do not show effectiveness. Tutoring can indeed be very effective, but that does not mean it is automatically effective everywhere.

To maximize effectiveness, start by using a structured method that has been reported as effective in the research literature. Be very careful and thorough in planning the tutoring, training the tutors and tutees, and providing appropriate materials. Then (equally importantly) monitor the implementation of the tutoring and give feedback and intervene where needed (Topping, 2000*b*).

Practical applications

- **Goals of monitoring.** Seek to: detect and solve any problems before they become large; find opportunities to give plentiful praise and show enthusiasm to keep motivation high; ensure the tutoring technique does not show signs of 'drift'; check that pairs are maintaining positive social relationships; be sure that materials used are from an appropriate sequence/level of difficulty; and generally review the complexity and richness of the learning taking place.
- **Self-help guide.** Make a simple self-help guide of common problems in tutoring, with suggestions about how these might be solved. You will keep adding to this. With 'packaged' techniques, clues about likely problems will be found in the literature.

- **Self-referral.** Let tutors and tutees know it is usual for many pairs to encounter some temporary difficulty, so this is not the fault of either helper or helped. They should know who to ask if one or both have any difficulty (with a particular problem, the tutoring technique or each other). They could seek help from other pairs before approaching a teacher.
- **Self-recording.** The pair should record their progress, and a monitoring teacher or tutoring organizer can then check these records or diaries from time to time.
- **Discussion.** Talk with the tutors and tutees about how things are going, perhaps at 'planning' or 'de-briefing' meetings. You might do this individually or in groups, with tutors and tutees together or separate.
- **Direct observation.** Carefully observe tutoring as it happens. (Do not assume that even the most intelligent tutor will be aware if they are going wrong.) A checklist of the elements of the tutoring technique will be helpful to structure these observations consistently. You could also ask 'spare' tutors to monitor sometimes, using this checklist. It is possible to use video or audio recording for monitoring, and this can be useful for feedback to individual pairs or the group as a whole, as well as being valuable as a training aid for subsequent projects.
- **Further training.** If several pairs are having problems, it is probably worth holding another 'refresher' training session.

Conclusion

Tutoring can be very effective. But it is not automatically effective. Parents who try to tutor their own child at home sometimes become frustrated and bad-tempered. Parents might also tutor the way they were taught at school, which might be quite different to the way the subject is taught in school today. So there are especial dangers when parents try to 'help' children with homework, especially when the children are older and their schoolwork is more advanced. Take care, and discuss exactly how you can help with your child's schoolteachers.

You might feel that all the advice given in this booklet makes tutoring seem very complicated. Be reassured—it is not so difficult, really. Make a start and learn for yourself as you go along. Many of the potential problems will never happen. But at least now you are prepared for anything. Well, almost anything.

This booklet is only a starting place. References and suggestions for further reading are found in the following section.

After you have read this booklet, try hard to find an opportunity to observe tutoring in action. Think about the good and bad points of what you saw. How many of the 'Principles' in this booklet were being followed? How many were being broken?

Discuss the ideas in the booklet with your friends and colleagues. Try out a tutoring programme. Discuss what happens with your partners, colleagues and friends. Then teach someone else some of what you have learned. Then you will **really** have learned it.

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NOTES

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